

Title (en)

NANOSTRUCTURE ARRAY DIFFRACTIVE OPTICS FOR RGB COLOR DISPLAYS

Title (de)

DIFFRAKTIVE ARRAY-NANOSTRUKTUROPTIK FÜR RGB-FARBANZEIGEN

Title (fr)

ÉLÉMENTS OPTIQUES DE DIFFRACTION À RÉSEAUX DE NANOSTRUCTURES POUR AFFICHAGES COULEUR RVB

Publication

EP 2994317 B1 20191113 (EN)

Application

EP 14794849 A 20140512

Priority

- US 201361822166 P 20130510
- CA 2014050444 W 20140512

Abstract (en)

[origin: WO2014179892A1] An RGB and/or CMYK full color optical display device comprising multiple nanostructure arrays configured to provide display of a wide range of colors corresponding to multiple pixels or sub-regions of an image is disclosed, where the multiple nanostructure arrays may be formed on a single substrate layer. An optical display device includes a substrate having a surface, and a first pixel of a color image comprising first and second sub-pixels according to at least one of an additive and subtractive color scheme, where the first sub-pixel comprises a first optical sub-wavelength nanostructure array formed on or in the surface of the substrate, and where the second sub-pixel comprises a second optical sub-wavelength nanostructure array formed on or in the surface of the substrate. A method of manufacturing an RGB and/or CMYK full color optical display comprising multiple nanostructure arrays arranged as sub-pixels according to a color scheme is also disclosed.

IPC 8 full level

B42D 25/30 (2014.01); **B42D 25/328** (2014.01); **G02B 5/18** (2006.01); **G07D 7/12** (2016.01)

CPC (source: EP US)

B42D 25/30 (2014.10 - EP US); **B42D 25/328** (2014.10 - EP US); **G02B 5/18** (2013.01 - US); **G02B 5/1809** (2013.01 - EP US); **G02B 5/1842** (2013.01 - EP US); **G02B 5/1852** (2013.01 - US); **G02B 5/1857** (2013.01 - US); **G02B 5/201** (2013.01 - EP US); **G02B 5/203** (2013.01 - EP US); **H01J 37/3174** (2013.01 - US)

Citation (opposition)

Opponent : De La Rue International Limited

- WO 2012156049 A1 20121122 - GIESECKE & DEVRIENT GMBH [DE], et al
- WO 2014023415 A1 20140213 - GIESECKE & DEVRIENT GMBH [DE]
- WO 2013039454 A1 20130321 - AGENCY SCIENCE TECH & RES [SG], et al
- US 7989254 B2 20110802 - YOON MIN-SUNG [KR]
- WO 2011139785 A2 20111110 - UNIV MICHIGAN [US], et al
- EP 2447744 A1 20120502 - SUISSE ELECTRONIQUE MICROTECH [CH]
- WO 2011072408 A1 20110623 - BOEGLI GRAVURES SA [CH], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2014179892 A1 20141113; AU 2014262358 A1 20151224; AU 2014262358 B2 20180809; CA 2911760 A1 20141113; CA 2911760 C 20210420; CN 105555543 A 20160504; CN 105555543 B 20170901; EP 2994317 A1 20160316; EP 2994317 A4 20170510; EP 2994317 B1 20191113; ES 2773494 T3 20200713; US 11198314 B2 20211214; US 2016107471 A1 20160421

DOCDB simple family (application)

CA 2014050444 W 20140512; AU 2014262358 A 20140512; CA 2911760 A 20140512; CN 201480036137 A 20140512; EP 14794849 A 20140512; ES 14794849 T 20140512; US 201414889816 A 20140512